

lines will stimulate demand for many more cost estimators. Job prospects in construction should be best for cost estimators with a degree in construction management or construction science, engineering, or architecture, who have practical experience in various phases of construction or in a specialty craft area.

Employment of cost estimators in manufacturing should remain relatively stable as firms continue to use their services to identify and control their operating costs. Experienced estimators with degrees in engineering, science, mathematics, business administration, or economics and who have computer expertise should have the best job prospects in manufacturing.

Earnings

Salaries of cost estimators vary widely by experience, education, size of firm, and industry. Median annual earnings of cost estimators in 1998 were \$40,590. The middle 50 percent earned between \$31,270 and \$53,490. The lowest 10 percent earned less than \$24,330, and the highest 10 percent earned more than \$79,400. Median annual earnings in the industries employing the largest numbers of managers in 1997 were:

Nonresidential building construction	\$43,400
Electrical work	40,800
Plumbing, heating, and air conditioning	40,700
Miscellaneous special trade contractors	39,200
Residential building construction	35,300

College graduates with degrees in fields such as engineering or construction management that provide a strong background in cost estimating could start at a higher level. According to a 1999 salary survey by the National Association of Colleges and Employers, bachelor's degree candidates with degrees in construction science received offers averaging about \$36,600 a year. Bachelor's degree candidates with degrees in construction management received offers averaging \$34,300 a year.

Related Occupations

Other workers who quantitatively analyze information include appraisers, cost accountants, auditors, budget analysts, cost engineers, economists, financial analysts, loan officers, operations research analysts, underwriters, and value engineers. In addition, the duties of production managers and construction managers may also involve analyzing costs.

Sources of Additional Information

Information about career opportunities, certification, educational programs, and cost estimating techniques may be obtained from:

- AACE International, 209 Prairie Ave., Suite 100, Morgantown, WV 26505. Internet: <http://www.aacei.org>
- Professional Construction Estimators Association of America, P.O. Box 11626, Charlotte, NC 28220-1626. Internet: <http://www.pcea.org>
- Society of Cost Estimating and Analysis, 101 S. Whiting St., Suite 201, Alexandria, VA 22304. Internet: <http://www.erols.com/scea>

Education Administrators

(O*NET 15005A and 15005B)

Significant Points

- Most jobs require experience in a related occupation, such as teacher or admissions counselor, and a master's or doctoral degree.
- Many jobs offer high earnings, considerable community prestige, and the satisfaction of working with young people.

- Competition will be keen for jobs in higher education, but opportunities should be better at the elementary and secondary school level.

Nature of the Work

Smooth operation of an educational institution requires competent administrators. Education administrators provide direction, leadership, and day-to-day management of educational activities in schools, colleges and universities, businesses, correctional institutions, museums, and job training and community service organizations. (College presidents and school superintendents are covered in the *Handbook* statement on general managers and top executives.) *Education administrators* set educational standards and goals and establish the policies and procedures to carry them out. They develop academic programs; monitor students' educational progress; train and motivate teachers and other staff; manage guidance and other student services; administer recordkeeping; prepare budgets; handle relations with parents, prospective and current students, employers, and the community; and perform many other duties.

Education administrators also supervise managers, support staff, teachers, counselors, librarians, coaches, and others. In an organization such as a small daycare center, one administrator may handle all these functions. In universities or large school systems, responsibilities are divided among many administrators, each with a specific function.

Those who manage elementary and secondary schools are called *principals*. They set the academic tone and hire, evaluate, and help improve the skills of teachers and other staff. Principals confer with staff to advise, explain, or answer procedural questions. They visit classrooms, observe teaching methods, review instructional objectives, and examine learning materials. They actively work with teachers to develop and maintain high curriculum standards, develop mission statements, and set performance goals and objectives. Principals must use clear, objective guidelines for teacher appraisals, since pay is often based on performance ratings.

Principals also meet and interact with other administrators, students, parents, and representatives of community organizations. Decision-making authority has increasingly shifted from school district central offices to individual schools. Thus, parents, teachers, and other members of the community play an important role in setting school policies and goals. Principals must pay attention to the concerns of these groups when making administrative decisions.

Principals prepare budgets and reports on various subjects, including finances and attendance, and oversee the requisitioning and allocation of supplies. As school budgets become tighter, many principals are more involved in public relations and fund raising to secure financial support for their schools from local businesses and the community.

Principals must take an active role to ensure that students meet national academic standards. Many principals develop school/business partnerships and school-to-work transition programs for students. Increasingly, principals must be sensitive to the needs of the rising number of non-English speaking and culturally diverse students. Growing enrollments, which are leading to overcrowding at many existing schools, are also a cause for concern. When addressing problems of inadequate resources, administrators serve as advocates to build new schools or repair existing ones.

Schools continue to be involved with students' emotional welfare as well as their academic achievement. As a result, principals face responsibilities outside the academic realm. For example, in response to the growing number of dual-income and single-parent families and teenage parents, schools have established before- and after-school child-care programs or family resource centers, which also may offer parenting classes and social service referrals. With the help of community organizations, some principals have established programs to combat increases in crime, drug and alcohol abuse, and sexually transmitted disease among students.

Assistant principals aid the principal in the overall administration of the school. Some assistant principals hold this position for several years to prepare for advancement to principal; others are career assistant principals. They are responsible for scheduling student classes, ordering textbooks and supplies, and coordinating transportation, custodial, cafeteria, and other support services. They usually handle discipline, attendance, social and recreational programs, and health and safety. They also may counsel students on personal, educational, or vocational matters. With site-based management, assistant principals play a greater role in developing curriculum, evaluating teachers, and school-community relations—responsibilities previously assumed solely by the principal. The number of assistant principals a school employs may vary depending on the number of students.

Administrators in school district central offices manage public schools under their jurisdiction. This group includes those who direct subject area programs such as English, music, vocational education, special education, and mathematics. They plan, evaluate, standardize, and improve curriculums and teaching techniques, and help teachers improve their skills and learn about new methods and materials. They oversee career counseling programs, and testing which measures students' abilities and helps place them in appropriate classes. Central office administrators also include directors of programs such as guidance, school psychology, athletics, curriculum and instruction, and professional development. With site-based management, administrators have transferred primary responsibility for many of these programs to the principals, assistant principals, teachers, and other staff.

In colleges and universities, *academic deans*, *deans of faculty*, *provosts*, and *university deans* assist presidents and develop budgets and academic policies and programs. They also direct and coordinate the activities of deans of individual colleges and chairpersons of academic departments.

College or university department heads or *chairpersons* are in charge of departments such as English, biological science, or mathematics. In addition to teaching, they coordinate schedules of classes and teaching assignments; propose budgets; recruit, interview, and hire applicants for teaching positions; evaluate faculty members; encourage faculty development; and perform other administrative duties. In overseeing

their departments, chairpersons must consider and balance the concerns of faculty, administrators, and students.

Higher education administrators provide student services. *Vice presidents of student affairs* or *student life*, *deans of students*, and *directors of student services* may direct and coordinate admissions, foreign student services, health and counseling services, career services, financial aid, and housing and residential life, as well as social, recreational, and related programs. In small colleges, they may counsel students. *Registrars* are custodians of students' records. They register students, prepare student transcripts, evaluate academic records, assess and collect tuition and fees, plan and implement commencement, oversee the preparation of college catalogs and schedules of classes, and analyze enrollment and demographic statistics. *Directors of admissions* manage the process of recruiting, evaluating, and admitting students, and work closely with financial aid directors, who oversee scholarship, fellowship, and loan programs. Registrars and admissions officers must adapt to technological innovations in student information systems. For example, for those whose institutions present information—such as college catalogs and schedules—on the Internet, knowledge of on-line resources, imaging, and other computer skills is important. *Directors of student activities* plan and arrange social, cultural, and recreational activities, assist student-run organizations, and may conduct new student orientation. *Athletic directors* plan and direct intramural and intercollegiate athletic activities, including publicity for athletic events, preparation of budgets, and supervision of coaches.

Working Conditions

Education administrators hold management positions with significant responsibility. Coordinating and interacting with faculty, parents, and students can be fast-paced and stimulating, but also stressful and demanding. Some jobs include travel. Principals and assistant principals whose main duty often is discipline may find working with difficult students challenging and frustrating. The number of school-age children is rising, and some school systems have hired assistant principals because a school's population increased significantly. However, in other school systems, principals may manage larger student bodies, which can be stressful.

Many education administrators work more than 40 hours a week, including some nights and weekends when they oversee school activities. Most administrators work 10 or 11 months a year, but some work year round.

Employment

Education administrators held about 447,000 jobs in 1998. About 9 out of 10 were in educational services, which includes elementary, secondary, and technical schools, and colleges and universities. The rest worked in child day care centers, religious organizations, job training centers, State departments of education, and businesses and other organizations that provided training for their employees.

Training, Other Qualifications, and Advancement

Most education administrators begin their careers in related occupations, and prepare for a job in education administration by completing a master's or doctoral degree. Because of the diversity of duties and levels of responsibility, their educational backgrounds and experience vary considerably. Principals, assistant principals, central office administrators, and academic deans usually have held teaching positions before moving into administration. Some teachers move directly into principal positions; others first become assistant principals, or gain experience in other central office administrative jobs at either the school or district level in positions such as department head, curriculum specialist, or subject matter advisor. In some cases, administrators move up from related staff jobs such as recruiter, guidance counselor, librarian, residence hall director, or financial aid or admissions counselor.

To be considered for education administrator positions, workers must first prove themselves in their current jobs. In evaluating candidates, supervisors look for determination, confidence,



Education administrators provide leadership and day-to-day management of elementary and secondary schools and colleges and universities.

innovativeness, motivation, and leadership. The ability to make sound decisions and organize and coordinate work efficiently is essential. Since much of an administrator's job involves interacting with others—such as students, parents, and teachers—they must have strong interpersonal skills and be effective communicators and motivators. Knowledge of management principles and practices, gained through work experience and formal education, is important. A familiarity with computer technology is a plus for principals, who are becoming increasingly involved in gathering information and coordinating technical resources for their students and classrooms.

In most public schools, principals, assistant principals, and school administrators in central offices need a master's degree in education administration or educational supervision. Some principals and central office administrators have a doctorate or specialized degree in education administration. In private schools, which are not subject to State certification requirements, some principals and assistant principals hold only a bachelor's degree; however, the majority have a master's or doctoral degree. Most States require principals to be licensed as school administrators. License requirements vary by State. National standards for school leaders, including principals and supervisors, were recently developed by the Interstate School Leaders Licensure Consortium. Several States currently use these national standards as guidelines to assess beginning principals for licensure, and many more States are expected to adopt the standards for this purpose. Some States require administrators to take continuing education courses to keep their certification, thus ensuring that administrators have the most up-to-date skills. The number and type of courses required to maintain certification vary by State.

Academic deans and chairpersons usually have a doctorate in their specialty. Most have held a professorship in their department before advancing. Admissions, student affairs, and financial aid directors and registrars sometimes start in related staff jobs with bachelor's degrees—any field usually is acceptable—and obtain advanced degrees in college student affairs or higher education administration. A Ph.D. or Ed.D. usually is necessary for top student affairs positions. Computer literacy and a background in mathematics or statistics may be assets in admissions, records, and financial work.

Advanced degrees in higher education administration, educational supervision, and college student affairs are offered in many colleges and universities. The National Council for Accreditation of Teacher Education accredits these programs. Education administration degree programs include courses in school management, school law, school finance and budgeting, curriculum development and evaluation, research design and data analysis, community relations, politics in education, counseling, and leadership. Educational supervision degree programs include courses in supervision of instruction and curriculum, human relations, curriculum development, research, and advanced pedagogy courses.

Education administrators advance by moving up an administrative ladder or transferring to larger schools or systems. They also may become superintendent of a school system or president of an educational institution.

Job Outlook

Expect substantial competition for prestigious jobs as higher education administrators. Many faculty and other staff meet the education and experience requirements for these jobs, and seek promotion. However, the number of openings is relatively small; only the most highly qualified are selected. Candidates who have the most formal education and who are willing to relocate should have the best job prospects.

On the other hand, it is becoming more difficult to attract candidates for some principal, vice principal, and administration jobs at the elementary and secondary school level, particularly in districts where crowded conditions and smaller budgets make the work more stressful. Many teachers no longer have a strong incentive to move into these positions. The pay is not significantly higher and does not compensate for the added workload, responsibilities, and pressures of the position. Also, site-based management has given teachers more decision-making responsibility in recent years, possibly satisfying their desire to move into administration.

Employment of education administrators is expected to grow about as fast as the average for all occupations over the 1998-2008 period. Additional openings will result from the need to replace administrators who retire or transfer to other occupations.

School enrollments at the elementary, secondary, and postsecondary level are all expected to grow over the projection period. Rather than opening new schools, many schools will enlarge to accommodate more students, increasing the need for additional assistant principals to help with the larger workload. Employment of education administrators will also grow as more services are provided to students and as efforts to improve the quality of education continue.

However, budget constraints are expected to moderate growth in this profession. At the postsecondary level, some institutions have been reducing administrative staffs to contain costs. Some colleges are consolidating administrative jobs and contracting with other providers for some administrative functions.

Earnings

Salaries of education administrators depend on several factors, including the location and enrollment size of the school or school district. Median annual earnings of education administrators in 1998 were \$60,400 a year. The middle 50 percent earned between \$43,870 and \$80,030 a year. The lowest 10 percent earned less than \$30,480; the highest 10 percent earned more than \$92,680. Median annual earnings in the industries employing the largest numbers of education administrators in 1997 were as follows:

Elementary and secondary schools	\$61,800
Colleges and universities	60,000
Vocational schools	43,700
Miscellaneous schools and educational services	33,800
Child day care services	25,000

According to a survey of public schools, conducted by the Educational Research Service, average salaries for principals and assistant principals in the 1997-98 school year were as follows:

Directors, managers, coordinators, and supervisors of instructional services	\$73,058
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Principals:

Elementary school	\$64,653
Junior high/middle school	68,740
Senior high school	74,380

Assistant principals:

Elementary school	\$53,206
Junior high/middle school	57,768
Senior high school	60,999

In 1997-98, according to the College and University Personnel Association, median annual salaries for selected administrators in higher education were as follows:

Academic deans:

Medicine	\$235,000
Law	160,400
Engineering	121,841
Business	90,745
Arts and sciences	87,293
Education	85,013
Social sciences	64,022
Mathematics	60,626

Student services directors:

Admissions and registrar	\$52,500
Student financial aid	48,448
Student activities	36,050

Related Occupations

Education administrators apply organizational and leadership skills to provide services to individuals. Workers in related occupations include medical and health services managers, social service agency administrators, recreation and park managers, museum directors, library directors, and professional and membership organization executives. Since principals and assistant principals usually have extensive teaching experience, their backgrounds are similar to those of teachers and many school counselors.

Sources of Additional Information

For information on elementary and secondary school principals, assistant principals, and central office administrators, contact:

• American Federation of School Administrators, 1729 21st St. NW., Washington, DC 20009.

• American Association of School Administrators, 1801 North Moore St., Arlington, VA 22209.

For information on elementary school principals and assistant principals, contact:

• The National Association of Elementary School Principals, 1615 Duke St., Alexandria, VA 22314-3483.

For information on collegiate registrars and admissions officers, contact:

• American Association of Collegiate Registrars and Admissions Officers, One Dupont Circle NW., Suite 520, Washington, DC 20036-1171.

For information on college and university personnel, contact:

• The College and University Personnel Association, 1233 20th St. NW., Washington, DC 20036-1250.

For information on professional development and graduate programs for college student affairs administrators, visit the National Association of Student Personnel Administrators Internet site:

<http://www.naspa.org>

Employment Interviewers, Private or Public Employment Service

(O*NET 21508)

Significant Points

- Although employers prefer applicants with a college degree, educational requirements range from a high school diploma to a master's or doctoral degree.
- Most new jobs will arise in personnel supply firms, especially those specializing in temporary help.

Nature of the Work

Whether you are looking for a job or trying to fill one, you might need the help of an employment interviewer. These workers, sometimes called personnel consultants, human resources coordinators, personnel development specialists, or employment brokers, help jobseekers find employment and employers find qualified employees. Employment interviewers obtain information from employers as well as jobseekers and put together the best combination of applicant and job.

The majority of employment interviewers are employed in private personnel supply firms or State employment security offices. Those in personnel supply firms who place permanent employees are usually called counselors. These workers offer tips on personal appearance, suggest ways to present a positive image, provide background information on the company with which an interview is scheduled, and recommend interviewing techniques. Employment interviewers in some firms specialize in placing applicants in particular kinds of jobs—for example, secretarial, word processing, computer programming and computer systems analysis, engineering, accounting, law, or health. Counselors in such firms usually have 3 to 5 years of work experience in their field.

Some employment interviewers work in temporary help services companies, placing the company's employees in firms that need temporary help. Employment interviewers take job orders from client firms and match their requests against a list of available workers. They select the most qualified workers available and assign them to the firms requiring assistance.

Regular evaluation of employee job skills is an important part of the job for interviewers working in temporary help services companies. Initially, interviewers evaluate or test new employees' skills to determine their abilities and weaknesses. The results are kept on file and referred to when filling job orders. In some cases, the company trains employees to improve their skills, so interviewers periodically reevaluate or retest employees to identify any new skills they may have developed.

Traditionally, firms that placed permanent employees dealt with highly skilled applicants, such as lawyers or accountants, and those placing temporary employees dealt with less skilled workers, such as secretaries or data entry operators. However, temporary help services increasingly place workers with a wide range of educational backgrounds and work experience. Businesses are now turning to temporary employees to fill all types of positions—from clerical to managerial, professional, and technical—to reduce the wage and benefit costs associated with hiring permanent employees.

The duties of employment interviewers in job service centers differ somewhat from those in personnel supply firms because applicants may lack marketable skills. In these centers, jobseekers present resumes and fill out forms regarding education, job history, skills, awards, certificates, and licenses. An employment interviewer reviews these forms and asks the applicant about the type of job sought and salary range desired.

Because an applicant in these centers may have unrealistic expectations, employment interviewers must be tactful, but persuasive. Some applicants are high school dropouts or have poor English skills, a history of drug or alcohol dependency, or a prison record. The amount and nature of special help for such applicants vary from State to State. In some States, it is the employment interviewer's responsibility to counsel hard-to-place applicants and refer them elsewhere for literacy or language instruction, vocational training, transportation assistance, child care, and other services. In other States, specially trained counselors perform this task.

Applicants may also need help identifying the kind of work for which they are best suited. The employment interviewer evaluates the applicant's qualifications and either chooses an appropriate occupation or class of occupations or refers the applicant for vocational testing. After identifying an appropriate job type, the employment interviewer searches the file of job orders seeking a possible job match and refers the applicant to the employer if a match is found. If no match is found, the interviewer shows the applicant how to use listings of available jobs.



Employment interviewers need good interpersonal skills.